



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,051	11/09/2001	Yosuke Fujii	SIW-020	7833

959 7590 11/02/2005
LAHIVE & COCKFIELD, LLP.
28 STATE STREET
BOSTON, MA 02109

EXAMINER

MAPLES, JOHN S

ART UNIT	PAPER NUMBER
----------	--------------

1745

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/010,051

Applicant(s)

FUJII ET AL.

Examiner

John S. Maples

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 ~~is/are~~ are pending in the application.
- 4a) Of the above claim(s) 5-22 ~~is/are~~ are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 23-26 ~~is/are~~ are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1745

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4, 23-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Mizuno et al.-US 6,387,558. (Mizuno) (New Rejection with regard to claim 26)

Reference is made to the Abstract to Mizuno along with column 6, line 19 through column 7, line 46. See also column 8, line 64 through column 9, line 12 and Figures 1-3 in Mizuno. A membrane electrode fuel cell stack is taught by Mizuno having an anode side separator (the left-most separator in Fig. 1) and a cathode side separator (the right most separator) with the membrane electrode assembly 31 located therebetween. Each separator includes oxidant inlet holes 40 and oxidant outlet holes 42 and fuel inlet holes 50 and fuel outlet holes 52, which sets of oxidant/fuel holes are located on opposite lateral side of each separator as claim 1 requires. Each separator also includes a coolant water passage formed including holes, which passage is located opposite the respective fuel gas channel and the oxidant gas channel-see column 8, line 64-column 9, line 12 in Mizuno. The recitation of the turning portions of the gas channels constituted at least in part by a sealing member is met by the adjacent fuel cell stack elements that seal the entire fuel cell stack.

Art Unit: 1745

Applicant's arguments relating to this rejection have all been considered but are not deemed persuasive. Applicant argues that Mizuno does not set forth a coolant channel on a face opposite the face provided with either an oxidant gas channel or a fuel gas channel. The examiner respectfully disagrees. As set forth above, in column 8, line 64 through column 9, line 12, Mizuno sets forth the separators each including a coolant passage, which passage is located on the opposite side of the separator than either of the oxidant gas channel or the fuel gas channel. Applicant noted that column 9, lines 9-12 of Mizuno does not teach the claimed subject matter, however, the portions noted above-column 8, line 64 through column 9, line 12 do teach the claimed coolant channel as set forth in the claims.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1745

5. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno in view of Saitou et al.-US 6,599,651 (Saitou)

The patent to Saitou teaches all of the claimed subject matter of a fuel cell except for a coolant inlet formed on either an upper or a lower side of the separator with a coolant outlet formed on the other of the upper or lower side of the separator and for the separators being formed of metal. It is noted that Mizuno provides for coolant holes in the separator formed on two sides thereof away from the other holes-see column 8, line 64 through column 9, line 12. Saitou depicts in Figure 3 among other places, a coolant inlet 46 in the bottom of the separator 41 and a coolant outlet 47 in the top portion thereof, which holes are away from the other holes. To have thus formed in the separator of Mizuno the configuration of the coolant holes as taught in Saitou would have been obvious to one of ordinary skill in this art at the time the invention was made so that the fuel cell would remain at a moderated temperature throughout its cycle.

With regard to the metal separators recited in claim 3 of the present application, Mizuno set forth the makeup of the separator therein in column 6, lines 64-68. Mizuno states that the separator is a gas-impermeable electrically conductive member. Saitou sets forth a separator that is gas impermeable and is electrically conductive-see columns 5 and 6 therein. To have formed the separator of Mizuno of a metallic material as shown in Saitou would have been obvious because Mizuno provides for such materials in the description thereof. Metallic separators are known for their strength and durability and are used extensively in fuel cell applications.

Art Unit: 1745

Applicant's arguments regarding the above rejection have been considered but are not persuasive. Applicant merely traverses this rejection by attacking the primary reference to Mizuno and argues that this reference does not teach the limitations of claim 1. As set forth in section 2 of this action, Mizuno teaches the claimed subject of claim 1 as outlined therein. Therefore, the rejection of claim 1 over Mizuno stands as set forth above.

In addition, because applicant did not argue the merits of the additional reference to Saitou, and more specifically argue the combination of this reference with Mizuno, the obviousness rejection outlined above stands as presented.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

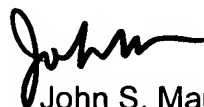
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John S. Maples whose telephone number is 571-272-

Art Unit: 1745

1287. The examiner can normally be reached on Monday-Thursday from 6:15-3:45 and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John S. Maples
Primary Examiner
Art Unit 1745

JSM/10-31-2005